

Wireless Technology Study



Wireless Technology Study Team:

**Budget & Evaluation
Finance / Purchasing
Guilford Metro 911 / Technical Services
Information Technology**

June 2009

Executive Summary

This study was designed to document and evaluate the prevalence, costs, and policies associated with the use of wireless communication devices within the organization. It was also intended to document some of the efficiency gains and/or cost avoidances that have been made possible through the use of these devices and recommend possible strategies for further cost reduction and appropriate management.

Based on the research, the following is known about the usage of wireless devices in the organization:

- For FY 07-08, expenditures for wireless communications (cell/smart phones, 800 MHz radios, wireless internet cards, pagers) total \$2.5 million. Radios make up approximately 70% of the total, phones make up 19% of the total, and pagers and internet cards make up 11% of the total.
- The top five General Fund users (Engineering & Inspections, Field Operations, Fire, Police, and Parks & Recreation) make up 93.9% of GF expenditures. The Police Department is the top user in the City of each type of device.

Study findings indicate that current City policies should be updated to encompass all wireless devices and should provide for closer monitoring of monthly charges and usage.

- The City has a cell phone policy developed by Information Technology that includes criteria for evaluating the need for a cell phone. This policy does not specifically address smart phones nor are there policies that address the other wireless devices.
- The justification provided by departments for cell phones generally adheres to the City policy. Because there are no other policies for devices such as smart phones, wireless cards, pagers and radios, criteria used for approval varies throughout the organization.
- There is little consistency throughout the organization regarding (1) criteria and/or job characteristics required for being assigned a smart phone versus a cell phone, (2) the degree to which departments monitor monthly usage, and (3) how often a department evaluates its needs for wireless communication technology.
- The departments which have the most redundancy with regard to communication devices by positions/job classes are also the departments that have the most devices.

The City should continue to take necessary steps to ensure that it is receiving best possible pricing for services making wise use of its resources.

- Sprint is the primary wireless service provider for the City. The City does not have a formal service agreement with Sprint because staff indicates the

current informal agreement provides greater flexibility and rates equal to or less than current State and Federal purchasing contracts.

- City should send out RFQ for wireless service to ensure it is receiving the best possible pricing for services. If the current informal agreement proves to be the best option, a formal monitoring procedure should be implemented to ensure staff regularly verifies that the current arrangement is still the best choice for the City.
- An organizational audit of cell phones should be conducted to review in greater detail how phones are being used in the organization and to see if lower cost options might sufficiently meet the needs of the department.

Departments report productivity gains and cost avoidances can be attributed to the use of wireless communications devices.

- Most of the documented productivity gains and/or cost avoidances realized through the use of technological devices appear to be driven by the use of wireless cards. Engineering & Inspections and Fire identified \$355,425 and \$220,274 in cost avoidances respectively.
- Most departments indicated general types of efficiencies in customer service and/or workload improvements. While these are difficult to quantify, they represent improved service to the City's external and internal customers and possible cost savings.

Though there is still room for improvement, the organization has already realized benefits from having performed this study. These include the following:

- A central data source was created detailing the number of wireless devices in the organization, to whom the devices are assigned and monthly usage. This data should be updated on a regular basis and be made available to departments to be used for internal monitoring.
- Billing errors were corrected that will result in cost savings for the City. Internet data cards were being charged various rates throughout the organization. By ensuring that all cards are charged the least possible rate, the City will save approximately \$28,000. Engineering and Inspections was being double charged on a monthly basis for internet cards that had been replaced through an upgrade. Correcting this issue will save the City approximately \$25,000 per year.
- Through analysis of its current use of wireless technology, Police determined that it could eliminate approximately 95% of its pagers for a cost savings of approximately \$40,000.

Two challenges that the City must address in the near future deal with recently discovered IRS regulations that stipulate personal use of a City-owned cell phone creates a taxable benefit and (2) the negative impacts on funding streams created by the decline in usage of the 800 MHz radio system. Staff will continue to meet to determine the best ways to address these issues while still meeting the needs of the City.

I. INTRODUCTION

Good communication, both employee to employee and employee to customer, is imperative to the delivery of quality services to the citizens of Greensboro.

Wireless communication devices such as cell phones, smart phones like those produced by BlackBerry, wireless internet connection cards, 800 MHz radios, and pagers are widely used in daily operations of City employees. Furthermore, these devices have played a role in developing an expectation of quick responses and 24-hour connectivity.

It is also important that the City regularly review the methods and tools it uses to conduct business to ensure that it is maintaining a high level of stewardship while meeting its objectives. This need becomes even greater during difficult economic times. For these reasons, City Council directed staff to conduct a study on the use of wireless communication devices throughout the organization. The purpose of the study is to document and evaluate the prevalence, costs, and policies associated with the use of wireless communication devices. Also, the study is intended to document some of the efficiency gains and/or cost avoidances that have been made possible through the use of these devices and recommend possible strategies for cost reduction and appropriate management.

II. METHODOLOGY

The process began by assembling a team consisting of staff members from the Budget and Evaluation, Information Technology, Technical Services, and Finance/Purchasing Departments. Once assembled, the team developed a Project Scope to define the purpose and objectives of the study (Appendix Object A). Upon reaching agreement regarding the scope of the study, Information Technology and Technical Services staff began collecting data regarding the number of cell phones, smart phones, wireless connection cards, 800 MHz radios, and pagers in use throughout the organization and identifying the costs associated with these devices.

Interviews and surveys were used for additional data collection. Purchasing utilized the North Carolina Purchasing Mailing List to survey other jurisdictions regarding the following information:

- Which department within the jurisdiction is responsible for purchasing phones and other devices;
- Does the jurisdiction bid the service or use a State or Federal contract;
- How do departments request phones and other devices;
- Who is responsible for oversight of contracts and usage?

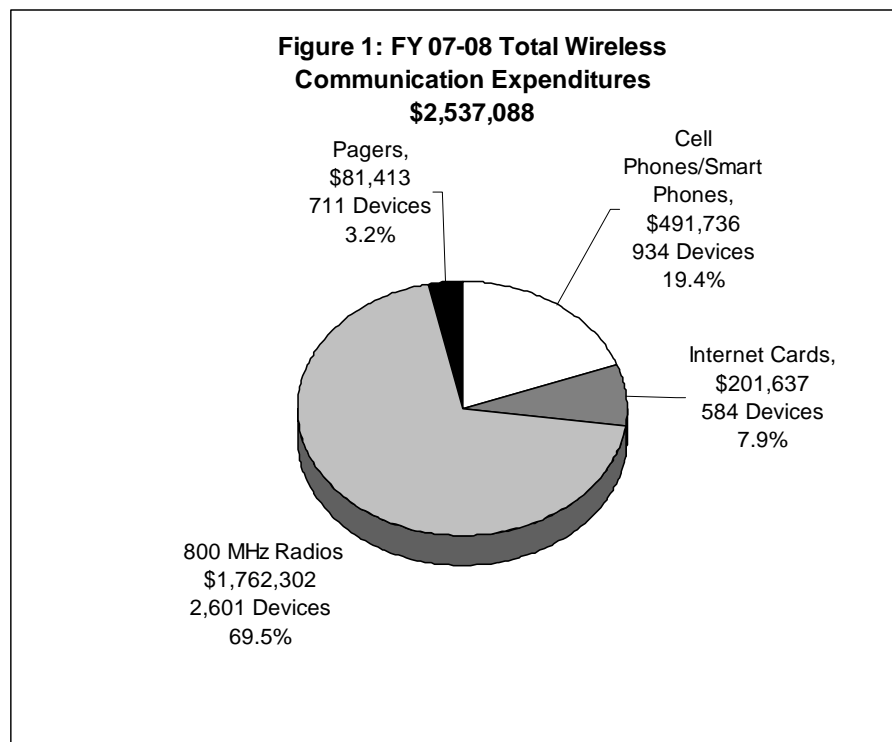
Surveys were also sent to all City departments requesting the following information:

- Do departmental policies exist regarding the use of wireless communication devices;
- How does an employee request a phone or similar device;
- What processes are in place to review requests and oversee the usage of and billing for these devices;
- What position types are required to carry multiple communication devices and why;
- How are these devices used in daily operations and how would those operations be affected if the number was reduced; and
- Can specific efficiencies and/or cost avoidance be attributed to the use of wireless communication devices.

In addition to the surveys, Budget staff met with representatives from Information Technology, Purchasing, and Technical Services regarding the roles they play in the procurement and oversight of these devices. Various City departments were also interviewed in an attempt to gain a better understanding of how wireless communication devices are used in daily operations. Upon completion of the data collection, the information was presented to the Study Team for input into the development of recommendations for the organization.

III. COST AND NUMBER OF DEVICES

Finding: Expenditures for wireless communication in FY 07-08 totaled \$2.5 million. General Fund departments make up 83.6% of these expenses. Radios make up 70.6% of General Fund departmental expenditures for wireless communication.

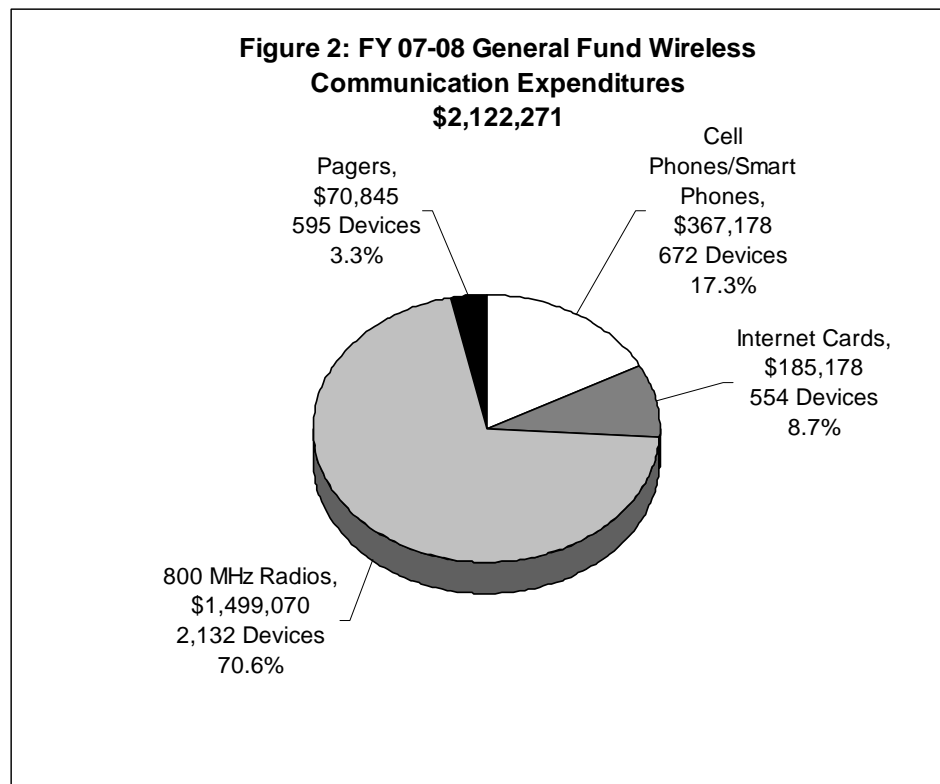


Based on the information provided by Information Technology and Technical Services, the City of Greensboro spent \$2.54 million on wireless communication devices in FY 07-08. This figure includes expenses for services and equipment directly related to the use of City cell phones/smart phones (BlackBerrys), wireless internet connection cards, 800 MHz radios, and pagers.

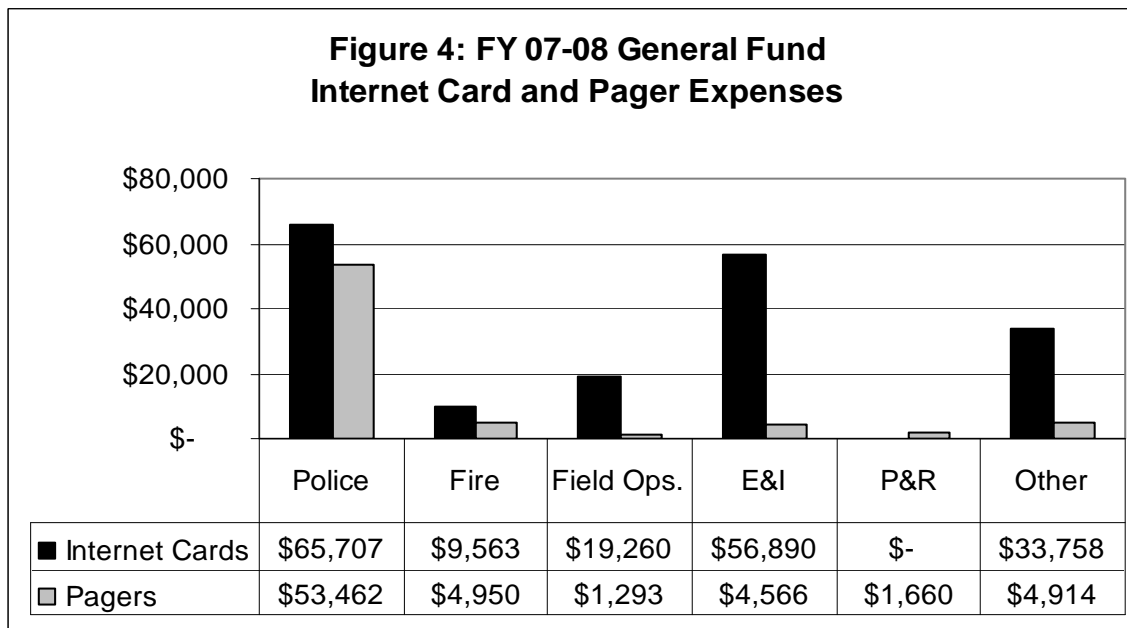
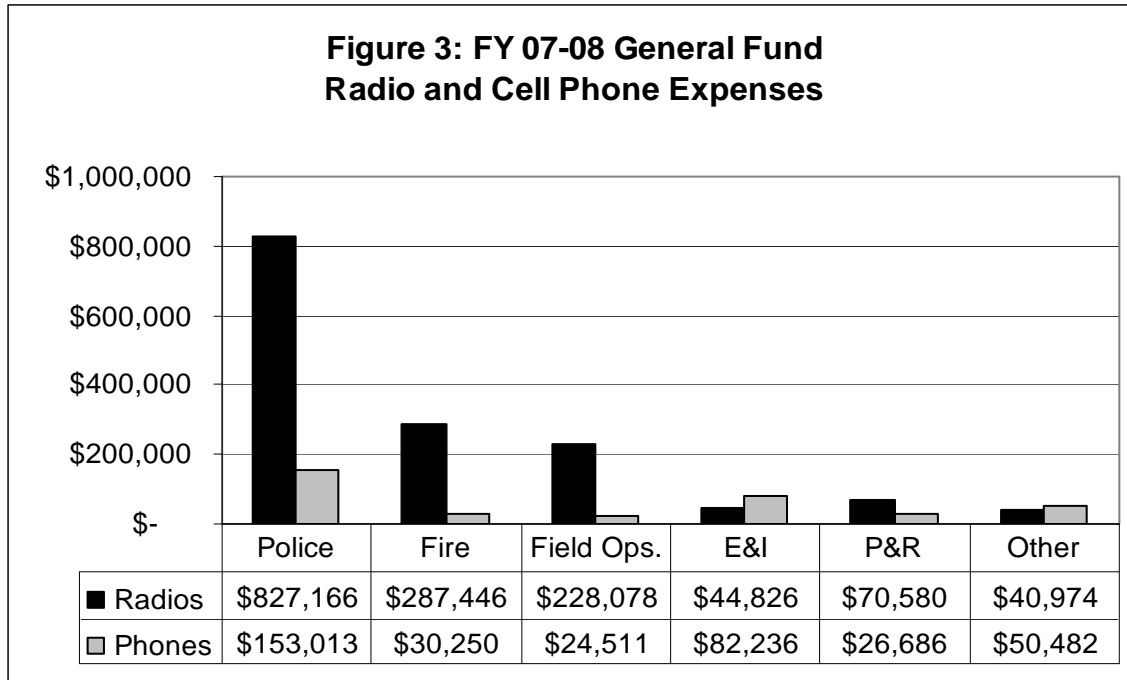
As evidenced in Figure 1, 800 MHz radios make up nearly 70% of total wireless communication expenditures with expenses totaling \$1.8 million for approximately 2,600 devices. Cell phones and smart phones make up 19.4% of the total spending with approximately \$492,000 in expenditures for approximately 930 devices. Wireless connection cards and pagers make up the remaining 11% with \$202,000 (584 units) and \$81,000 (711 units) respectively in expenditures.

(Note: The number of units is approximate because it varies over the course of a year.)

With \$2.12 million in expenditures, the General Fund is responsible for 83.6% of total wireless communication expenditures. As evidenced in Figure 2, radios make up 70.6% of expenditures with a total \$1.5 million while cell phones and smart phones make up 17.3% of expenditures with a total of \$367,000 in expenditures. Wireless connection cards equate to 8.7% (\$185,000) of expenditures while pagers make up 3.3% (\$71,000) of total General Fund expenditures.



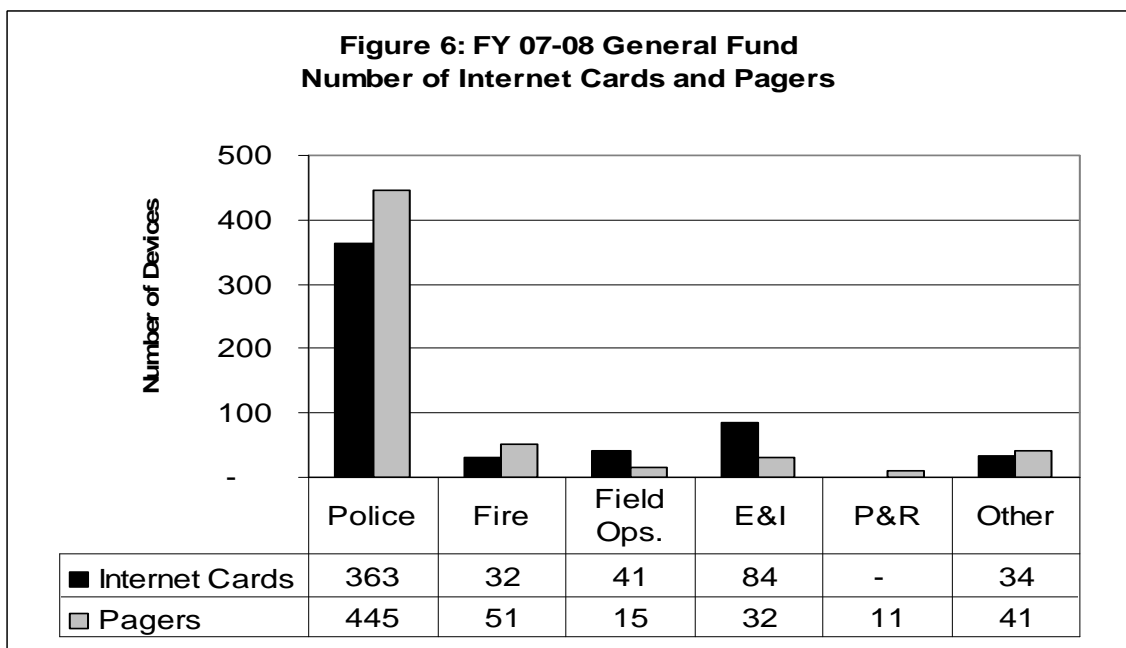
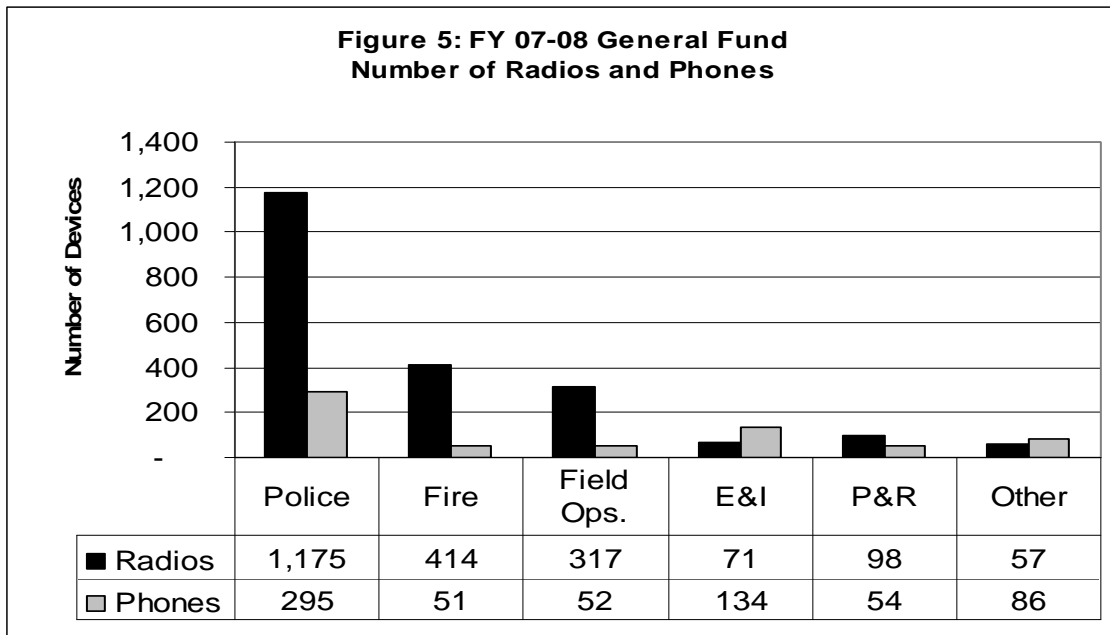
Finding: The top five General Fund users make up 93.9% of GF expenditures. The Police Department is the top user in the City of each type of device. Police radio expenses account for 39% of total General Fund expenditures.



Figures 3 and 4 show the costs per department for the largest users of wireless communication within the General Fund. The top five users make up 93.9% of total General Fund costs. The Police Department was the top user of each type of wireless device. With expenses totaling \$1.1 million, Police expenditures

represent 41.7% of General Fund expenditures for phones, 55.2% for radios, and 75.5% for pagers. Police radio expenses alone account for 39.0% of total General Fund expenditures for wireless devices. Excluding Police, Fire and Field Operations had the greatest expenditures for radios while Engineering and Inspections (E&I) and Fire had the greatest expenditures on cell phones.

Based on expenditures, E&I and Field Operations were the second and third largest users of internet cards while E&I and Fire were the largest users of pagers. The Other category, made up of all other City departments, had the third highest expenditures for phones, internet cards, and pagers. This category does not contribute significantly to expenditures for radios.



Figures 5 and 6 illustrate the number of devices per General Fund department. As one would expect given the expenditures, Police had the most devices in each category. After Police, Fire and Field Operations had the largest number of radios (414 and 317 respectively) while E&I had the largest number of Cell Phones (134). Again excluding Police, E&I and Field Operations had most Internet Cards while Fire had the most pagers.

(See Appendix Object B for a complete listing of costs and number of devices by department and fund.)

(Note: The number of units is approximate because it varies over the course of a year.)

IV. POLICIES AND PROCEDURES

As indicated in the methodology section of this report, interviews were held with the IT, Purchasing, and Technical Services departments to document current organizational policies and those departments' roles in the acquisition and oversight of wireless communication devices. Questionnaires were then distributed to City departments to document the acquisition and oversight procedures utilized within departments.

Finding: The City has a cell phone policy developed by Information Technology that includes criteria for evaluating the need for a cell phone. This policy does not specifically address smart phones nor are there policies that address the other wireless devices.

Organizational Policies

The City has a basic cellular telephone policy developed by IT that is intended to provide criteria to be used to evaluate the need for this technology within the department; establish standards for the type of phone purchased and the method of acquisition; and establish guidelines for proper use. This policy does not specifically address need for a smart phone versus a cell phone. According to the policy, an employee should meet at least one of the following criteria in order to obtain a cell phone:

- Job duties and responsibilities require constant contact with citizens or public servants in other governmental agencies and who spend at least 50% of their workday away from the office.
- Serve in public safety capacities and routinely function in a command or field coordinator role for actual emergency incidents or rehearsals for emergency incidents.

- Spend at least one third of their workday away from the office and who routinely need to communicate or receive time sensitive and confidential information.
- Receive temporary assignments away from the office which require constant contact with citizens or public servants in other governmental agencies.

The policy stipulates that requests should be sent to the department head who is responsible for applying the above criteria, determining fund availability, and making a recommendation. Final review should be conducted jointly by Telecommunications Staff and Budget Staff.

The cell phones should be acquired through a lease contract negotiated by the Telecommunications Manager who is also responsible for selecting the appropriate cell phone vendor. If a request is approved, the employee will receive a standard telephone model selected by the Telecommunications Manager to meet the needs of most employees. Employees must submit written justification to their department head if additional capabilities are needed.

The policy continues to say that an issued cell phone is intended primarily for City business and personal calls are discouraged and should be kept to a minimum. In addition, employees should reimburse the City for personal calls. It is the responsibility of immediate supervisors to monitor the use of cell phones by reviewing monthly schedules of cell phone activity. Inappropriate use should be reported to the respective department head. (See Appendix Object C for the complete Cellular Telephone Policy.

Though not in written policy, the Director of Guilford Metro 911 recently issued a memo addressing the use of pagers. Because pagers are more reliable than cell phones during critical events affecting large areas of the City, the City Managers Office and Core Team members from the Tier II response level (Engineering & Inspections, Field Operations, Fire, Metro 911, IT/GIS, Police, Public Affairs, Water Resources, Transportation, and Parks & Recreation) should continue to carry a pager. In addition, Core Team members from the other departments and Department Heads may drop the use of pagers only if they provide a cell phone number to Metro 911 in order to receive page information.

The City does not have any additional policies that pertain specifically to the acquisition, usage, or oversight of internet connection cards, 800 MHz radios, or pagers.

Finding: Sprint is the primary wireless service provider for the City. The City does not have a formal service agreement with Sprint because staff indicates the current informal agreement provides greater flexibility and rates equal to or less than current State and Federal purchasing contracts.

Cell Phones/Smart Phones: Application of Policies and Procedures

Interviews with staff from Information Technology (IT) confirmed that all departmental requests for cell phones and smart phones, upon being approved by the respective department head, are sent to the IT Helpdesk as indicated in the policy. Requests are then approved by the Communications Support Specialist. Typically, additional analysis with regards to departmental needs does not occur unless the department has requested a phone with capabilities not available on one of the standard models.

Sprint is the primary service provider for cell phones and smart phones for the City. (IT reports that there are approximately five phones used in the organization that are from a different service provider.) Contrary to the City Cellular Telephone Policy, there is no contract in place with Sprint specifying pricing for phones and services. However, IT staff indicate that this arrangement offers the City a great deal of flexibility as it relates to changing service plans to achieve better pricing as well as regularly connecting and disconnecting devices as needed without being charged a penalty. As part of this study, Purchasing conducted a review of select departments and verified that the rates received by the City are typically equal to or better than those offered through State Purchasing Contracts. The City Purchasing Division does not play a role in the acquisition of cell phones/smart phones and associated wireless services.

Both Information Technology and larger user departments occasionally order phones in bulk to achieve better pricing. IT ensures that these phones are not activated until the older phone is deactivated in the case of a replacement or until proper approvals have been received in the case of a new request. User departments are not able to contact Sprint directly to have a phone activated.

There are barriers that prevent the City from regularly considering a change in service provider. If such a change were to be made, the City would have to purchase all new cell phones, smart phones, and internet wireless connection cards. This could be a considerable expense given the over 1,500 devices in use throughout the City. Also, Sprint has installed equipment (i.e. repeaters) in various City buildings to ensure good reception throughout those buildings. While this equipment was installed free of charge, there are contracts that would require the City to pay Sprint a penalty for not meeting a minimum usage level. Though the actual amount is based on the amount of time remaining on the contract when cancelled, the amount owed could exceed \$100,000.

The bills for cell phone, smart phone, and internet card usage are sent to IT for processing. A Work Management Technician is responsible for ensuring that the bills are charged to the correct accounts. In addition, this employee regularly "spot checks" the bills and reviews them month to month to determine if there are any unusual increases. If so, the IT liaison from that user department is notified. The monthly bills are also made available to the departmental liaison. The Work

Management Technician must also maintain contact with Sprint to determine what service and add-on plans are currently in effect as Sprint does not adjust the City billings for price plan decreases unless it is specifically requested by the City.

For the purposes of comparison, Figure 7 summarizes the responses received when City staff posted a survey on the NC Purchasing listserve regarding Purchasing, Request, and Oversight procedures in other jurisdictions.

Figure 7: Listserve Responses to Purchasing, Request, and Oversight Procedures				
	Greensboro	Fayetteville	High Point	Raleigh
Purchasing Methodology: (State or GSA contract; Bid by Jurisdiction; Other)	Verbal Service Agreement with Sprint	City bid contract; Upon expiration went to monthly agreement; Will re-bid.	City bids the service using modified State contract	GSA contract with some providers; Service agreements with other providers.
Department Responsible for Purchase	Information Technology	Purchasing	Information Technology	Purchasing
Procedures for Phone Requests	Required approval by Director; Requests made to IT	Required approval by Director; Requests made to IT	Required approval by Director; Requests made to vendor.	Required approval by Director; Requests made to IT
Policies/Requirements Dictating Request approval (Smart Phone vs. Cell Phone)	Determination of need made by Dept Head. Not dictated by policy.	Determination of need made by Dept Head. Not dictated by policy.	Determination of need made by Dept Head. Not dictated by policy.	Determination of need made by Dept Head. Not dictated by policy.
Department Responsible for User Oversight.	Departments are sent monthly statements; Should be used to monitor use.	IT monitors bills and Finance conducts periodic audits. Dept Head ultimately responsible.	Departments are sent monthly statements; Should be used to monitor use.	Information Technology

Of the three municipalities that responded to the questions, all respondents have some formal contract or service agreement. They also either bid the service or some portion of the service or use the US General Services Administration (GSA) contract. All respondents indicated that approval was required by the Department Head and that no formal policy was in place that dictated whether a position qualified for a cell phone and if that phone should be a smart phone. This decision is typically the responsibility of the Department Head. A memo received from Winston-Salem states that justification for a cell phone must show that other effective, lower cost methods of communication (including city radios, land line telephones, pagers, and e-mail) are not sufficient. Fayetteville and High Point indicated that oversight of usage should be conducted by the department while this is the responsibility of IT in Raleigh.

Wireless Internet Connection Cards: Procedures

There are two types of wireless connection cards in use throughout the City: external cards that are plugged into the computer and cards that are embedded in many of the newer laptops and meter readers. The procedures to request new data cards and for activation of embedded data cards are similar to those for cell phones. Both must be approved by the department head and then sent to IT by a departmental liaison. IT typically fulfills the requests that have been approved by the department head without additional analysis. As with cell phones, bills are sent directly to IT to be charged to the correct departmental account and then made available to the department. The City is charged \$39.99 per month for each active data card. Again, the City has no written contract that stipulates the monthly costs of these cards, however IT routinely checks the current pricing available through Sprint to ensure the City is receiving the best deal available.

800 MHz Radios and Pagers: Procedures

Pagers and 800 MHz radios are managed out of the Technical Services Division of Guilford Metro 911. In order to receive a radio or pager, the liaison from the requesting department must send the request to Technical Services along with the appropriate account number. Requests for pagers (1-way or 2-way) are typically approved without additional analysis as there is no City policy regarding criteria for pagers. For radio requests, Technical Services does make a determination regarding which type of radio is needed based on the needs of the particular department. Pagers are provided by USA Mobility, though similar to the arrangement the City maintains with cell phones, there is no written contract that dictates pricing. The responsibility of ensuring the City receives the best possible pricing lies with Technical Services. The City does use the state contract to purchase new radio equipment. Technical Services submits monthly charges for radios and pagers to the Finance Department via spreadsheet so that the charges are allocated properly to the departments.

It should be noted that many of the radios owned by the City were purchased via bonds and require departmental lease payments in order to pay back the long term debt. The City must continue to fund the debt service payments on this equipment regardless of whether a department chooses to turn in its radios. Additional discussion regarding the issues surrounding the long term debt charges on radios and the usefulness of radios to departments can be found in Section VI of this document.

Finding: There is little consistency throughout the organization regarding (1) criteria and/or job characteristics required for being assigned a smart phone versus a cell phone, (2) the degree to which departments monitor monthly usage, and (3) how often a department evaluates its needs for wireless communication technology.

Departmental Policies and Procedures

A survey was sent to departments requesting information regarding departmental policies and procedures for the acquisition, usage of wireless technology, and oversight. Responses from the 13 departments that returned the survey confirm that most departments have an informal procedure in place for the request wireless devices. Police actually has a formal cell phone policy addressing these issues. (See Appendix Object D for a copy of the Police policy.)

Although request procedures vary by department, it appears to be similar throughout the organization. The employee makes a request to the departmental liaison, direct supervisor, or division head. Depending on the department, the request may be in the form of a verbal request, an email, or using a departmental request form. Responsibility for the analysis of need also varies by department, typically falling to the departmental liaison, direct supervisor, or division head. The request is then sent to IT or Technical Services via the departmental liaison.

The survey results also indicated that there is very little consistency throughout the organization regarding criteria and/or job characteristics required for being assigned a smart phone versus a cell phone. The cell phone policy discussed previously does not include any criteria for issuing smart phones versus cell phones nor are there organizational policies specifying criteria for issuance of other wireless devices. Therefore, each department must make a determination regarding which device is appropriate for a given position. Four of the respondents indicated that smart phones are typically assigned to positions of a certain level (i.e. Police Lieutenants and above; Fire Administrative Managers and above; or Assistant Division Managers and above) while two respondents indicated that smart phones are not allowed or are rarely issued (i.e. only one within a larger department). Most departments responded that the request is reviewed on a case by case basis while one department included specific criteria used to evaluate requests. While none of the 13 respondents directly referenced the criteria included in the City cell phone policy, responses to a second survey discussed later in this report do indicate that departments tend to generally follow the policy.

Second, the degree to which departments monitor monthly usage varies throughout the organization. Of the 13 respondents, all indicated that monthly review does take place. Two departments indicated that monthly costs are tracked in a separate spreadsheet on a monthly basis and at least one of those departments track expenses by user. Two other respondents replied that bills are reviewed on a monthly basis to look for abnormalities. Though other respondents did not go into detail regarding the process they use, some identified a single person within the department that is responsible for monitoring billing while others said this task is spread among various supervisors.

Finally, survey responses indicate inconsistency in how often (if ever) a department evaluates its needs for various types wireless communication

technology (i.e. Does this position still need these devices?). Three departments indicated that no review takes place or that review is infrequent and only happens during a change in business process. Two departments replied that review takes place whenever duties change or there is turnover. The remaining departments either did not offer details regarding the review (though they did indicate that review takes place) or stated that supervisors and division heads monitor these needs on a regular basis. (See Appendix Object E for responses to survey.)

V. USAGE OF WIRELESS TELECOMMUNICATION DEVICES

One of the study objectives was to determine through departmental surveys and interviews the degree to which various types of employees are issued multiple devices and if justification exists for the devices that are currently in use. Therefore, a survey was distributed asking departments to identify which position types (i.e. police sergeant or solid waste operator) are assigned one or more wireless devices and to describe how these devices are utilized in daily operations. Furthermore, departments were asked to explain the reasons behind redundancy created by multiple devices where that exists, describe how service levels would be affected if the number of communications devices was reduced, and identify any productivity gains or cost avoidances that can be attributed to these devices (See Appendix Object F for full questionnaire).

(Note: Discussion regarding the number of devices may not match the number of devices discussed earlier as departments responded based on current figures as opposed to FY 07-08.)

In addition to the surveys, staff from Budget and Evaluation met with representatives from Engineering and Inspections, Parks and Recreation, Police, and Human Resources to gain a clearer understanding of the issues addressed in the survey. Engineering, P&R, and Police were chosen because they were among the heaviest users of communication devices in the City. Human Resources was selected to get a better understanding of how devices may be used in support departments.

Finding: The departments which have the most redundancy with regard to communication devices by positions/job classes are also the departments that have the most devices (Police, Fire, Field Operations, Engineering & Inspections, and Parks & Recreation).

There are varying degrees of redundancy within the organization where positions/job classes have multiple devices. A summary of responses from these departments is contained in Appendix Object G.

- The Police Department reports a considerable amount of redundancy as approximately one-half of its 639 sworn positions are assigned radios, cell

- phones or smart phones, and wireless cards (three devices). GPD indicates it will be able to eliminate 95% of its pagers by using aforementioned devices which allow them to be fully engaged for daily operations as well as in the event of an emergency. In addition, the department is in the process of evaluating its level of connectivity with a goal of eliminating any duplication of service wherever possible.
- Within the Fire Department, of the 53 positions that are issued radios, 43 positions (81%) are issued cell phones; 32 positions (60%) are issued wireless cards, and 37 positions (70%) are issued pagers. Sixteen additional pagers are issued in GFD to those serving on the Regional Response Team.
 - Field Operations reports that it has 317 radios that are issued to various positions and vehicles. In addition, the department has issued five smart phones, 47 cell phones, and 41 wireless cards. Multiple devices are issued to Division Managers, Section Supervisors and various field personnel. In addition, 15 pagers are issued among the Division Managers, Section Supervisors and selected Field Personnel who are on the City Core Team.
 - The Engineering and Inspections Department indicates its issuance of cell/smart phones for 119 positions as its greatest need for technological devices. Redundancy exists for this department in the following divisions:
 - The **Director of Engineering & Inspections** is issued a wireless card, radio and pager
 - The **Building Inspections Division** is issued 52 cell phones, 43 wireless cards, one radio and seven pagers
 - The **Building Maintenance Division** is issued nine cell phones, one wireless card, 28 radios, and 10 pagers
 - The **Central City Services** Division is issued seven cell phones, three smart phones, two wireless cards, 18 radios and eight pagers
 - The **Engineering** Division is issued 37 cell phones, one smart phone, five wireless cards and four (4) pagers
 - The **Facilities** Division is issued eight cell phones, one wireless card, one radio and one pager
 - The **Security** Division is assigned one cell phone and radios
 - Parks and Recreation has 39 cell/smart phones, 39 radios and eight pagers distributed among 65 positions. Seventeen positions have both cell/smart phones and radios; only three positions have all three devices. Parks and Recreation does not use wireless cards in its daily operations.

Productivity Gains/Cost Avoidance

Finding: Most of the documented productivity gains and/or cost avoidances realized through the use of technological devices appear to be driven by the use of wireless cards. Most departments indicated general types of efficiencies in customer service and/or workload improvements. While these are difficult to quantify, they represent improved service to the City's external and internal customers and possible cost savings.

Departments reported that the following productivity gains and or cost avoidances were achieved through the use of wireless internet cards:

- The Police Department reports its biggest productivity gains have come through the use of wireless cards. Prior to the use of wireless cards in the mobile computers, reports were entered in their Toughbooks and the patrol vehicle had to be in a "hotspot" to transmit the reports. The wireless internet card allows investigative and crash reports to be sent from nearly anywhere within the city making transmission much smoother and instantaneous. The ultimate reward is improved reporting from the Patrol Units.
- The Fire Department reports that wireless cards for the Fire Prevention Bureau's Fire Inspectors have provided the greatest productivity gains. Fire Inspectors have increased the average number of inspections per day, per inspector by two, or 1.5 more hours of field time per day. This extra time equates to approximately 3.6 Full Time Equivalents for a savings of approximately \$215,424 in salary expenses. Also, it is estimated that the Fire Prevention Bureau saves over \$2,000 annually in carbonless paper through transmission of its reports via the wireless network. Finally, the ability to immediately access the City's Fire Codes online avoids the cost of purchasing additional code books at a cost of \$150 each totaling \$2,850 in savings.
- Engineering & Inspections reports its biggest productivity gains have come through the use of wireless cards for its Building and Local Ordinance Enforcement Inspectors. The Inspectors have increased the average time spent in the field performing inspections by approximately 1.5 hours per day. The Director of Engineering & Inspections estimates that the increased work time provided by the wireless work stations is equivalent to approximately seven full-time inspector positions at a total cost of \$355,425.

Departments reported the following general work load efficiencies and/or improvements in customer service.

- Radios allow for the transfer of timely internal information when no cell phone signal is available and enhances employee and citizens' safety in the event of an emergency.
- Smart phones not only provide the advantages of cellular communication, but allow employees the ability to address general e-mail and routine issues while out of the traditional office setting and after hours. Responses to all types of communications are expedited.
- Cell phones increase productivity at every level in the organization. Travel time and fuel costs are avoided by giving the employee the ability to receive/provide updated information without returning to the office. In some instances, departments such as Housing & Community Development, Water Resources, and Engineering & Inspections also cite cell phones as providing additional employee safety, particularly for service that is provided in distressed areas in Greensboro.
- Pagers represent an inexpensive and very reliable (though not infallible) method of communication. These are generally issued to employees who have a need to receive timely information but who have no other communication devices. They are also issued to employees for communication of emergency information and/or for those who receive call-backs. They are also issued to City Communication Center (CCC) staff. Many departments report that, in fact, it is not redundant for employees to have pagers in addition to other communication devices because CCC communications require a pager.
- Wireless data cards not only provide portable offices for employees who transmit work orders, reports, and other information in real time, but they also provide up-to-date infrastructure and GIS information that may not be indicated on paper maps. Both of these advantages make employees more efficient in the daily operations.

Departments indicate the following impacts could be realized if wireless communication devices are reduced or eliminated:

- While critical to public and employee safety and the effectiveness of emergency response, a reduction or elimination of radios would not directly impact workload (i.e. the number of emergencies would neither increase nor decrease), but would negatively impact response times.
- Reduction or elimination of cell phones/smart phones would significantly increase workloads, lessen customer service for both internal and external customers, and negatively impact emergency preparedness.

- Reduction or elimination of wireless cards would not necessarily increase workloads, but would eliminate a basic service which needs to be available to all who use them.
- The effects of reducing or eliminating pagers would vary. There would be minimal impact on workload for employees who are also issued cell phones/smart phones as these serve as redundant means of notification. However, among employees who are only issued pagers, service delivery would be significantly affected because this is the primary method for emergency call back.

These devices have increased the level of customer service and communication provided to citizens and between departments. Departments indicated that an expectation of instant and/or around the clock response has been created. Reducing wireless communication devices within the organization may negatively impact the higher level of customer service and productivity that has come to be expected, however, it is not currently possible to determine the degree to which it would be impacted given the data collected thus far.

Adherence to Policies

Finding: The justification provided by departments for cell phones generally adheres to the City policy. Because there are no other policies for devices such as smart phones, wireless cards, pagers and radios, criteria used for approval varies throughout the organization.

Cell phones are generally issued as set forth in the policy:

- Duties require constant contact with citizens, staff, or public servants of other agencies;
- Duties require that employee spends a large portion of workday away from the office and receives time sensitive and confidential information;
- Service in public safety capacities for response to emergency incidents or similarly related incidents (i.e. training); or
- Receive temporary assignments away from the office that requires constant contact with citizens, staff or public servants of other agencies

Finding: Departments report that radios are typically used to provide brief, instructional type of information while cell phones are used for more sensitive and/or in-depth discussions.

Discussions addressing departmental needs of multiple devices pertinent to job duties were addressed by two of the major departments (Police and Fire) during interviews. Police and Fire both indicated that radios are service-critical in terms of emergency response and indicated they were most appropriate for brief directions. Cell phone/smart phones are used when additional and/or timely

information is needed by citizens or staff. In addition, they indicated that these devices were also more convenient when communicating confidential, sensitive, or lengthy information instead of going to a private channel on the radios.

Other Survey Items

At least two departments that indicated decisions regarding the issuance of communication devices are made on a case-by-case basis considers this practice to be a necessity due to organizational broad banding of positions. That is, the same position types within a particular department may perform very different jobs. Therefore, the departments have found it does not necessarily make sense to provide the same communication devices consistently across a job type. This must be taken into consideration in any future efforts to create organizational policies.

Another issue that presented itself through the surveys and during interviews is frustration from some departments regarding inaccuracies in the billing process, long processing times for changes in service (i.e. the cancellation or transfer of a device). One department has had to assign cell phone billing reconciliation to a staff person as part of their regular duties because the bills had been a source of frustration and oversight of the cost could not be managed otherwise. Another large user department had noticed it was being billed for phones that it had requested to be disconnected three months prior. Finally, during the data collection portion of this study, Engineering & Inspections discovered that it was being double charged for some internet cards that had been replaced through an upgrade. Additional steps need to be taken to ensure that charges for this equipment are accurate, that departments can easily monitor usage and charges, and that service changes are made as quickly and accurately as possible.

VI. UNANTICIPATED CHALLENGES

Over the course of this study, two unforeseen issues arose that may significantly impact current City policies regarding cell phones and the 800 MHz radio system.

Internal Revenue Service Regulations Governing Cell Phone Usage

Finding: IRS guidelines stipulate that personal use of City-owned cell/smart phones creates a taxable benefit. In order to comply with regulations, the City must either (1) create a process to audit all cell phone/smart phone calls and receive reimbursement from employees for personal calls; or (2) provide a stipend to employees and force them to use personal phones for business purposes.

Recently discovered Internal Revenue Service (IRS) regulations require employers to review and audit cell phone usage on a regular basis as personal use of a City cell phone is a taxable benefit to the employee. According to IRS

Code Section 280F(d)(4)(A)(v), created in 1989, cell phones are considered “listed property” and as such are designated by the IRS as lending themselves easily to personal use. The personal use of a city owned cell phone creates a taxable non-cash fringe benefit to the employee.

Compliance with the IRS regulation requires employers to review and audit cell phone usage on a regular basis. Failure to complete the required audit would create a taxable benefit for the entire cost of the equipment including service costs. The audit requirement suggests a standard of evaluation that exceeds a simple customary review of monthly invoices and may require a substantial monthly review to differentiate between personal and business usage of the cell phone.

Options

There are compliance challenges as well as pros and cons with all options. There are also disparities between how the options affect various departments. All options that allow personal use of a city owned phone would require a significant allocation of resources to comply with the IRS Regulation. Resource demands include audit of usage, processing multiple individual deposits, document storage and retrieval, internal audit review, and potentially providing proof of compliance in the event of an IRS audit.

The following identifies pros and cons associated with various options:

Employee Reimbursement

An audit process would be implemented agency wide to meet the IRS regulation audit requirements. Employees would be required to reimburse the City for all personal phone calls.

Pros

- Employee could easily separate business calls from personal.

Cons

- Employee should carry personal cell phone to make personal calls.
- Significant resources required to process reimbursement from employees to organization.
- Difficult if not impossible to determine cost of equipment and calls which may create non-compliance issue with IRS regulation.
- Difficult for organization to distinguish between personal and business calls.

Stipend

One option that seems to be gaining momentum in local governments is requiring employees to use personal cell phone for business purposes. The employee would be compensated by receiving a fixed monthly stipend via payroll. Only employees required to carry a cell phone for business would be eligible for the

stipend. Depending upon the stipend amount, savings could potentially be realized by avoiding equipment and plan purchase costs. Conversely, a stipend in excess of approximately \$40 could result in a cost increase to the City. These estimates are based on issuing an equal stipend for all City-owned cell phones (See Appendix Object H for Stipend Analysis Spreadsheet). However, stipends would likely be developed based on actual usage and be implemented through a tiered system. Also, a stipend plan may not be a realistic option for all departments.

Pros

- Virtually eliminates the IRS audit requirement.
- Significant savings to organization (employees own the phone and usage plan).
- One-time setup in payroll to establish stipend vs. multiple deposits for reimbursements.
- Stipends can be tiered for usage requirements.
- Employees who carry a separate device for personal use can carry a single device.

Cons

- Resistance from employees.
- Certain departments (GPD) and individuals who frequently provide their cell phone numbers to citizens may have concerns of separating business and personal calls.
- Phone numbers would have to be distributed.
- Personal phone records may be subject to public records laws.
- Cell phone contracts may be an issue for employees who are terminated.

Hybrid Approach

A hybrid approach would attempt to set policy that specifies the stipend option or reimbursement option based on established business rules and requirements.

Pros

- Gives the organization flexibility.
- Would require fewer “audits” and resources to comply with IRS regulations.

Cons

- May cause confusion and discord among employees.

These options need to be evaluated in greater detail before choosing the option that best suits the City’s needs. Staff is currently reviewing issues associated with moving toward a stipend plan. Every effort will be made to ensure that the City comes into compliance with these regulations while still meeting the communication needs of the organization.

Declining Usage of 800 MHz Radios

Finding: Some user departments are determining that they no longer need 800 MHz radios for daily operations. These departments are returning radios to Technical Services, thus negatively impacting the funding stream for debt still owed on the radios.

The second issue to arise over the course of the study is that as departments have begun to more closely analyze their use of wireless technology, some have determined that 800 MHz radios are no longer needed. Because these are funded through internal service charges, this creates funding issues for the debt yet to be paid on the radios.

The City of Greensboro originally purchased its portion of the 800 MHz radio system and all of its initial subscriber units using bond funds in 1996. At that time, the organization established a lease payment program for the repayment of the bond debt. Approximately 80% of the City's radios are on the long-term lease. The reimbursement schedule on the remaining long term debt will continue through the year 2020 yet the subscriber units and infrastructure will not extend to 2020 due to the end of life cycle of replacement parts and support.

For each radio in use by a department, the department is charged a lease rate that helps offset infrastructure costs and goes toward repayment of the debt. In addition to the lease charge, there is a standard \$275 per-unit annual maintenance charge. Included in this charge is maintenance to the infrastructure; repairs; manufacturer replacement; and monitoring. Since the implementation of the system in the late 90's the \$275-annual charge has not increased.

Other than those departments for which radios are the most utilized method of communication (Police, Fire, Field Operations and Engineering & Inspections), many departments no longer have the need or have a greatly reduced need for 800 MHz radios. These departments have determined that their needs are better met through cell phones or other wireless devices. As a result, departments have begun to return their unneeded radios to Technical Services. Returning a radio to Technical Services however does not generate a cost savings as the City is still responsible for the debt payments. In addition, there are fewer radios in the field to generate revenue through the internal service charge for this debt payment. At the time this report was written, 70 radios had been turned in to Technical Services. Since the 800 MHz system is co-owned with the County and includes users from other cities such as, Gibsonville, Burlington, Elon, etc. fewer subscribers could result in higher fees being charged to the remaining users.

It is important to note that the primary and most reliable source of communication in an emergency/disaster is typically going to be the radio. The City currently has

full control over the system in times of extreme utilization, unlike other technologies (Cell, pagers etc.)

VII. SUMMARY

This study was designed to document and evaluate the prevalence, costs, and policies associated with the use of wireless communication devices within the organization. It is also intended to document some of the efficiency gains and/or cost avoidances that have been made possible through the use of these devices and recommend possible strategies for cost reduction and greater oversight. The following are the significant findings revealed over the course of the study:

- Expenditures for wireless communication in FY 07-08 totaled \$2.5million. General Fund departments make up 83.6% of these expenses. Radios make up 70.6% General Fund departmental expenditures for wireless communication.
- The top five General Fund users make up 93.9% of GF expenditures. The Police Department is the top user in the City of each type of device. Police radio expenses account for 39% of total General Fund expenditures.
- The City has a cell phone policy developed by Information Technology that includes criteria for evaluating the need for a cell phone. This policy does not specifically address smart phones nor are there policies that address the other wireless devices.
- Sprint is the primary wireless service provider for the City. The City does not have a formal service agreement with Sprint because staff indicates the current informal agreement provides greater flexibility and rates equal to or less than current State and Federal purchasing contracts.
- There is little consistency throughout the organization regarding (1) criteria and/or job characteristics required for being assigned a smart phone versus a cell phone, (2) the degree to which departments monitor monthly usage, and (3) how often a department evaluates its needs for wireless communication technology.
- The departments which have the most redundancy with regard to communication devices by positions/job classes are also the departments that have the most devices (Police, Fire, Field Operations, Engineering & Inspections, and Parks & Recreation).
- Most of the documented productivity gains and/or cost avoidances realized through the use of technological devices appear to be driven by the use of wireless cards. Most departments indicated general types of

efficiencies in customer service and/or workload improvements. While these are difficult to quantify, they represent improved service to the City's external and internal customers and possible cost savings.

- The justification provided by departments for cell phones generally adheres to the City policy. Because there are no other policies for devices such as smart phones, wireless cards, pagers and radios, criteria used for approval varies throughout the organization.
- Departments report that radios are typically used to provide brief, instructional type of information while cell phones are used for more sensitive and/or in-depth discussions.
- IRS guidelines stipulate that personal use of City-owned cell/smart phones creates a taxable benefit. In order to comply with regulations, the City must either (1) create a process to audit all cell phone/smart phone calls and receive reimbursement from employees for personal calls; or (2) provide a stipend to employees and force them to use personal phones for business purposes.
- Some user departments are determining that they no longer need 800 MHz radios for daily operations. These departments are returning radios to Technical Services, thus negatively impacting the funding stream for debt still owed on the radios.

Improvements/Cost Reductions

Though there is still room for improvement with regards to how devices are issued and the oversight of wireless devices, the organization has already realized benefits from having performed this study. Prior to this study, there was no single data source that showed how many wireless devices the City had or how much the City paid annually for those devices and related services. In order to collect the cost and number of devices data presented earlier in the study, IT staff spent many hours entering data from monthly cell phone bills. Knowing how many devices are in the organization and what they cost is an important first step in improving the overall management of these devices.

Other improvements realized through this process have been corrections of billing inaccuracies. As staff analyzed cost data for wireless internet cards it became clear that the City was being charged varying amounts for wireless cards throughout the organization. Although newer cards were being billed at a new cheaper rate, many older cards were still being billed at an older, more expensive rate. By taking steps to ensure that all wireless cards are being billed at the cheapest possible rate, staff estimates that the City will realize approximately \$28,000 in savings.

Another billing inaccuracy was discovered regarding wireless internet cards within the Engineering and Inspections Department. Because E&I had not been able to view detailed monthly bills for its internet cards, the department was unable to verify that it was no longer being charged for 30 cards that had been upgraded to faster cards during FY 06-07 and FY 07-08. When the detailed information became available, the department verified that it was being double charged for the upgraded cards. Correcting this issue should reduce the departmental charges for these internet cards by approximately \$25,000 per year.

Finally, while examining its current use of wireless technology, the Police Department determined that it could eliminate approximately 95% of its 345 pagers and use other devices to remain fully connected and engaged both during normal daily operations and in the event of an emergency. Though approximately 20 positions that have position-specific commands will maintain their pagers (Police Chief, Special Operations Division commander, special teams, etc.), this reduction should result in approximately \$40,000 in cost savings to the City. The Greensboro Police Department is in the process of evaluating its level of connectivity with a goal of eliminating any duplication of service wherever possible and is developing an overall comprehensive communication policy for the department.

VIII. RECOMMENDATIONS

Despite the improvements made thus far, there are still steps to be taken to improve internal processes and policies that govern the issuance and use of wireless technology devices and improve organizational oversight of these devices. It should be noted that if the City chooses to move toward a stipend plan in order to come into compliance with the IRS regulations discussed previously, some of the following recommendations may not apply. Taking that into consideration, the study team contends that the following recommendations represent the “next steps” of this study process:

- Detailed information regarding the number of devices, monthly usage (where appropriate), and charges should be updated on a monthly or quarterly basis. This detailed information should be made available to departments to be used to regularly monitor the number of devices and associated charges.
- City policy should be updated and/or developed to address all devices. Policies should include guidelines for what criteria should be present in order to be assigned one or more wireless devices. Justification for devices be able to demonstrate that lower cost methods of communication (including city radios, land line telephones, pagers, and e-mail) are not sufficient.

- City should send out RFQ for wireless service to ensure it is receiving the best possible pricing for services. If the current informal agreement proves to be the best option, a formal monitoring procedure should be implemented to ensure staff regularly verifies that the current arrangement is still the best choice for the City.
- Departments should monitor usage and charges on a monthly basis. Departments should regularly review the devices assigned to various positions to ensure that those positions continue to meet prescribed criteria and that a lower cost option is not available.
- An organizational audit of cell phones should be conducted to review in greater detail how phones are being used in the organization and to see if lower cost options might sufficiently meet the needs of the department.

Regarding the issues involving reduced need for 800 MHz radios and related funding issues, the team recommends the following:

- A team comprised of Guilford Metro 911, Finance and Budget & Evaluation and selected user departments should convene to determine if the current financing plan is responsive to the changing needs of the organization while continuing to support the 800 MHz infrastructure requirements.
- Areas of concentration should include isolating what costs, if any, could be avoided when departments that no longer need radios return them and what portion of the long-term lease payment would still be paid by those departments. A multi-tier payment approach may be a reasonable alternative.
- It should also be considered if departments plan to return their “leased” radios, these departments first need to coordinate with other departments to see if the lease payment can be continued by those that need additional radios, before turning them into the shop.

These recommendations represent prudent “next steps” that will assure adherence to the City core value of stewardship while also meeting the wireless communication needs of the organization.

Appendix Object A
Project Scope – August 2008
Wireless Telecommunications Study

PURPOSE

The purpose of the study is to document and evaluate the prevalence, costs, efficiency gains, and policies associated with the allocation and usage of wireless telecommunication devices (cell phones, pagers, data cards, Blackberry's etc.) within the organization. This study will also examine possible strategies for reducing costs and/or ensuring these devices provide positive productivity gains worthy of the investment.

OBJECTIVES

- Document the number and cost of telecommunication devices throughout the organization. Document the positions that have multiple communication devices, including 800 MHz radios.
- Document current both departmental and organizational policies as they relate to determining the need for wireless communication device(s).
- Evaluate the effectiveness of current policies and oversight procedures.
- Document and evaluate the role that MIS, Purchasing, and Technical Services have in the procurement and management of telecommunication devices.
- Conduct audits in select departments to determine if justifiable needs exist for telecommunication devices used currently.
- Evaluate purchasing procedures for communication devices and related contracts.
- Document any productivity gains and/or any cost avoidance that have/has been achieved through the use of telecommunication devices.
- Review and/or establish procedures for regular audits of telecommunication devices within departments.
- Develop and recommend additional policies and procedures as appropriate to ensure appropriate use and oversight of devices.

METHODOLOGY

- Study participants will include Budget and Evaluation, MIS, Finance/Purchasing, Technical Services, and various departmental staff members responsible for management of wireless devices. Staff from these departments plus possible outside available resources (i.e. UNCG MPA Students) will be asked to serve as contributing members of the study, including participation in data collection and analysis.
- Collect data regarding number of telecommunication devices, including 800MHz radios, by department and the cost of those devices.
- Review current policies related to allocation of telecommunication devices.

Appendix Object A

- Review departmental oversight procedures as they relate to use of telecommunication devices. Determine what, if any, enforcement of these procedures takes place.
- Meet with selected departmental representatives to determine if the number of telecommunication devices assigned within the sample departments is consistent with policies and procedures.
- Meet with MIS, Purchasing, and Technical Services to discuss their roles in the management of technology.
- Meet with selected departments in an effort to document productivity gains and/or cost savings or cost deferment that can be attributed to these telecommunication devices.
- Survey similarly sized jurisdictions and organizations to determine if there are best practices for management of telecommunication devices that can be utilized in the City.

TIMEFRAME

October – December

- Collect data regarding number of devices by department and employee and costs for devices
- Collect data regarding citywide policies
- Identify Sample Departments
- Meet with selected departments to:
 - Verify departmental needs
 - Review and verify departmental procedures and oversight
 - Document productivity gains or cost savings
- Develop survey for other jurisdictions/organizations

January

- Distribute survey and continue data collection
- Conduct final data analysis

February

- Write report

March

- Draft report is due

APPROVALS

City Manager's Office

Date

MIS

Date

Technical Services

Date

Finance/Purchasing

Date

Budget and Evaluation

Date

Appendix Object B
Cost and Device Summary by Fund

Fund/Department		Cell Phones/Blackberry		Sprint Wireless Data Cards		Radios		Pagers	
		Total \$ s	# Devices	Total \$ s	# Devices	Total \$ s	# Devices	Total \$ s	# Devices
101-0201	Executive	\$ 1,374	2	\$ 593	1	\$ 4,410	6	\$ 653	3
101-0203	ERP			\$ -	0	\$ -	0	\$ 99	1
101-0207	Internal Audit			\$ -	0	\$ -	0	\$ 99	1
101-0208	MWBE	\$ 1,348	2	\$ -	0	\$ -	0	\$ 99	1
101-03	Human Relations			\$ -	0	\$ -	0	\$ 99	1
101-04	Public Affairs	\$ 2,227	5	\$ 1,346	2	\$ 4,960	8	\$ 1,327	11
101-05	Human Resources	\$ 8,645	10	\$ -	0	\$ -	0	\$ 348	4
101-07	MIS	\$ 3,047	3	\$ -	0	\$ -	0	\$ 416	3
101-10	Finance	\$ 5,054	8	\$ -	0	\$ -	0	\$ 99	1
101-15	Legal	\$ 2,385	4	\$ 599	1	\$ -	0	\$ 218	1
101-20	Planning	\$ 5,466	7	\$ -	0	\$ -	0	\$ 198	2
101-35	Police *	\$ 153,013	295	\$ 65,707	363	\$ 827,166	1175	\$ 53,462	445 *
101-40	Fire	\$ 30,250	51	\$ 9,563	32	\$ 287,446	414	\$ 4,950	51
101-43	Field Operations	\$ 24,511	52	\$ 19,260	41	\$ 228,078	317	\$ 1,293	15
101-45	Transportation	\$ 16,489	35	\$ 30,904	29	\$ 30,870	42	\$ 594	6
101-50	Parks and Rec.	\$ 26,686	54	\$ -	0	\$ 70,580	98	\$ 1,660	11
101-55	Libraries	\$ 4,266	9	\$ 319	1	\$ -	0	\$ 447	5
101-60	Engineering & Insp.	\$ 82,236	134	\$ 56,890	84	\$ 44,826	71	\$ 4,566	32
101-65	Environ. Svcs.	\$ 181	1	\$ -	0	\$ 735	1	\$ 218	1
TOTAL GF		\$ 367,178	672	\$ 185,178	554	\$ 1,499,070	2132	\$ 70,845	595
205	P&R/Cemeteries	\$ 3,757	4	\$ -	0	\$ -	0	\$ -	0
211	Housing & CD	\$ 6,460	11	\$ -	0	\$ -	0	\$ 99	1
212	Housing & CD			\$ -	0	\$ -	0	\$ 99	1
216	JTPA	\$ 3,262	7	\$ 3,844	5	\$ -	0	\$ -	0
220-40	State & Fed. Grants/Fire ** 2	\$ 1,624	4	\$ -	0	\$ -	0	\$ 5,301	53 ** 2
220-50	State & Fed. Grants/P&R	\$ 503	1						
281	GM 911	\$ 13,182	18	\$ 673	2	\$ 27,765	41	\$ 317	2
281	Fire ** 1					\$ 6,601	24 ** 1	\$ -	0
501	Water Resources	\$ 52,174	144	\$ 6,429	12	\$ 151,315	209	\$ 2,597	42
505	Water Resources/Stormwater	\$ 6,427	17	\$ -	0	\$ -	0	\$ 99	1
521	Coliseum							\$ 153	3
543	Transportation/Parking	\$ 1,918	4						
551	Env. Svcs./SWM	\$ 2,335	4	\$ -	0	\$ 30,410	42	\$ 51	1
564	Transportation/GTA	\$ 5,049	7	\$ -	0	\$ 42,731	147	\$ 297	3
680	Finance/Eq. Svcs.	\$ 14,818	14	\$ -	0	\$ 3,675	5	\$ 150	2
681	GM 911	\$ 4,691	10	\$ -	0	\$ -	0	\$ 1,307	6
682	MIS	\$ 7,947	15	\$ 5,512	11	\$ -	0	\$ 99	1
683	Finance/Graphic Svcs.	\$ 411	2						
684	HR/Ins. Funds			\$ -	0	\$ 735	1	\$ -	0
TOTAL OTHER FUNDS		\$ 124,558	262	\$ 16,459	30	\$ 263,232	469	\$ 10,568	116
TOTAL ALL FUNDS		\$ 491,736	934 **3	\$ 201,637	584	\$ 1,762,302	2,601	\$ 81,413	711
GRAND TOTAL		\$ 2,537,088							

NOTES:

- * GM911 does not provide/maintain these devices; info. provided by GPD Logistics Section
- ** 1 These radios were purchased w/ MMRS grant funds; W. Reid agreed to pay the maintenance costs from Fund 281
- ** 2 These pagers are paid from the RRT grants
- ** 3 Number of devices by Fund is estimate based on billing. Information was not provided by fund.

MIS

Network Services



Cellular Telephone Policy

The City of Greensboro will provide cellular telephones to City employees when it has been determined that access to such technology will significantly increase the quality, efficiency and effectiveness of direct services provided to the public.

Purpose

1. To provide criteria for management team members to evaluate the need for cellular phone technology in their respective departments.
2. To establish standards for type of phone purchased and method of acquisition.
3. To establish guidelines for insuring proper use of cellular telephones.

Evaluating Cellular Phone Need

Cellular telephones should be provided only to employees that meet at least one of the following criteria:

1. City employees whose job duties and responsibilities require constant contact with citizens or public servants in other governmental agencies and who spend at least 50% of their workday away from the office.
2. City employees who serve in public safety capacities who routinely function in a command or field coordinator role for actual emergency incidents or rehearsals for emergency incidents.
3. City employees and officials who spend at least one third of their workday away from the office and who routinely need to communicate or receive time sensitive and confidential information.
4. City employees who received temporary assignments away from the office, which require constant contact with citizens or public servants in other governmental agencies, can be provided a cellular phone on a temporary basis.

Requesting a Cell Phone

Employees that meet at least one of the above criteria may request a cellular phone by submitting it to their Department Head for review.

MIS

Network Services



Review and approval of cellular phone request

Department Heads will be responsible for reviewing cellular phone requests, applying the aforementioned evaluation criteria, determining fund availability and making a recommendation on whether the request should be approved or denied.

Upon Department Head approval, the Cellular Phone Request form bearing the Department Head's signature should be submitted to the Telecommunications Department so that a phone may be issued. The Cellular Phone Request form must be received by Telecommunications before a cellular phone is issued.

Acquisition method

Cellular phones will be acquired through a lease contract with a selected cellular telephone vendor. The Greensboro Telecommunications Manager is responsible for negotiating the contractual terms of the lease and for selecting the appropriate cellular telephone vendor.

All approved requests for cellular phones will be filled from the lease contract and appropriate fees will be assessed to departmental budgets.

Selection: brands, models and features

The Telecommunications Manager will select a group of standard cellular telephone models that will meet the basic telecommunications needs of most City employees. Typically, only the standard models will be issued to employees who have been approved for a cellular phone.

In certain instances an employee may need cellular telephone capabilities that are not available on the City's standard models. In those instances, an employee may request additional capabilities by providing a written justification demonstrating a critical need for such additional capabilities and submitting that justification to his or her Department Head.

If approved by the Department Head, the written justification will be submitted to the Telecommunication Director and the Budget Director for joint review. Requests for additional capabilities will generally not be approved unless a critical need has been established.

MIS

Network Services



Billing

Telecommunications staff will instruct the cellular telephone vendor to send billing statements to the City of Greensboro Telecommunications office and a copy to the departmental staff. The vendor will send only those billing statements that relate to equipment provided for official use by City employees.

Periodic billing statements will be forwarded to the City Finance Department for payments against appropriate departmental accounts. Department Directors should review and approve cellular telephone billing statements for compliance with the Cellular Phone policy.

Use of cellular telephones

1. A cellular phone issued by the City is intended primarily for City business. As such, personal calls are discouraged and should be kept to a minimum.
2. Employees will reimburse the City for any personal use of the cellular phone. To insure efficiency in collection procedures, employees may reimburse the City once their personal calls have accumulated in the amount of \$10.
3. To insure compliance with the policy, Internal Audit will periodically review cellular phone bills and make appropriate recommendations.
4. A desk phone should be used instead of a cellular phone whenever a City employee is inside a City facility or other facilities where a desk phone is readily available.

Monitoring of cellular phone usage

To insure that the use of cellular phones is consistent with the aforementioned guidelines, immediate supervisors will monitor the use of cellular phones by reviewing monthly schedules of cellular telephone activity.

Inappropriate use of cellular phones will be reported to the respective Department Head.

TITLE: CELLULAR TELEPHONE POLICY	NUMBER 16.7
EFFECTIVE DATE: 09-15-04	PAGE 1 OF 2
REVISION HISTORY: (Adopted 09-09-02)R1/09-15-04	

16.7.1 PURPOSE

The Greensboro Police Department will provide cellular telephones to Departmental employees when it has been determined that access to such technology will significantly increase the quality, efficiency and effectiveness of direct services provided to the public. This policy is to be abided by in conjunction with the City of Greensboro Cellular Phone Policy. It is the responsibility of all members to ensure that all cellular telephones are used responsibly, properly, and in adherence with the procedures set forth in this policy.

16.7.2 EVALUATION CRITERIA FOR CELLULAR TELEPHONE ISSUANCE

The following criteria should be used as a guide in determining whether an employee should be provided a cellular telephone:

- Employees whose job duties and responsibilities require constant contact with citizens or public servants in other governmental agencies and who spend at least 50% of their workday away from the office.
- Employees who routinely function in a command or field coordinator role for actual emergency incidents or rehearsals for emergency incidents.
- Employees who spend at least one third of their workday away from the office and who routinely need to communicate or receive time sensitive and confidential information.
- Employees who receive temporary assignments away from the office which require constant contact with citizens or public servants in other governmental agencies may be provided with a cellular telephone on a temporary basis.

16.7.3 REQUESTING A CELLULAR TELEPHONE

- Requests for issuance of a cellular telephone will be made by completing a Cellular Telephone Request Form (CM-BE 1-320-Rev. 10/96) and submitting the form to their Bureau Commander for review and approval.
- Bureau Commanders will be responsible for reviewing cellular telephone requests, applying the aforementioned evaluation criteria, determining fund availability and making a recommendation on whether the request should be approved or denied.
- Upon Bureau Commander approval, the Cellular Telephone Request Form bearing the Bureau Commander's signature should be submitted to the Fiscal Management Section, which will coordinate with Telecommunications for the issuance of a cellular telephone.

16.7.4 ISSUANCE OF CELLULAR TELEPHONES

- Cellular telephones will be issued by the Logistics Section. The cellular telephone will become an assigned piece of equipment similar to portable radios, handguns, etc.
- The Logistics Section will maintain a current listing on the Department's Shared Folder of all cellular telephones assigned to employees of the Department.

TITLE: CELLULAR TELEPHONE POLICY	NUMBER 16.7
	PAGE 2 OF 2

- Employees with assigned cellular telephones will, upon separating from the Department, return the cellular telephone to the Logistics Section.
- Employees who, due to their position/assignment, are authorized a cellular telephone, shall maintain the same phone even when transferred to another assignment as long as the new assignment is authorized a cellular telephone. If the new assignment is not authorized a cellular telephone, the cellular telephone shall be returned to the Logistics Section.

16.7.5 USE OF CELLULAR TELEPHONES

- A cellular telephone issued by the Department is intended primarily for City business. As such, personal calls are discouraged and should be kept to a minimum.
- A stationary telephone should be used instead of a cellular telephone whenever an employee is inside a City facility or other facilities where a stationary telephone is readily available.
- Employees shall check their monthly cellular bills and reimburse the City for any personal use of the cellular telephone at a per minute rate determined by City policy. Payment will be made to the Fiscal Management Section.

16.7.6 MONITORING OF CELLULAR TELEPHONE USAGE

- To insure the use of cellular telephones is consistent with the aforementioned guidelines, the Fiscal Management Section will monitor the use of cellular telephones by reviewing monthly billing statements of cellular telephone activity.
- Questionable use of cellular telephones will be reported to the respective employee's immediate supervisor for review.
- The City of Greensboro's Internal Audit Division will periodically review cellular telephone bills for compliance.

CELLULAR TELEPHONE REQUEST FORM

1. Please identify the name and job title of the employee requesting a cellular phone.

2. Please indicate the specific evaluation criteria that is being used to justify this request.

3. Please identify the account number to which lease and air-time expense is to be charged.

4. Please indicate the name and job title of the employee who will review the periodic billing statements for compliance with the Cellular Phone Policy (periodic billing statements will be sent to the employee named here).

Department Head Signature
(mandatory for approval)

Appendix Object E
Technology Study Survey Responses

1. Does your department have written policies pertaining to the management; including request, procurement, usage, and/or oversight; of wireless telecommunication devices? If yes, please include a copy of these policies.

Police	Yes (Included Separately)
Human Res.	No
CMO	No
ODC	No: Use City Policy
Fin/Collections	No
Water Res.	No
Field Ops.	The department does not have its own written policy for requests, procurement, and wireless telecommunications. However, the City has policies that the department adheres to as it pertains to the above mentioned items. Those policies have been attached for reference.
Libraries	No, we do not have a written policy.
Legal	No
Transportation	The wireless policy has been signed by all employees using a wireless device. The signed policies are filed and maintained by MIS (Tasha Cornwell). All departmental wireless request for a new telecommunication device will be considered by the Technology Section of GDOT.
Purchasing	No
GM 911	No
Fire	We have no written policies, however there is a system for request, procurement and oversight.

2. Please detail the process an employee would use to request any of the devices referenced above.

Police	<p><u>Cell Phone:</u></p> <p>A supervisor must issue requests to liaison Tebony Vincent. Such requests are in the form of a memorandum (email or written), especially if the request is subsequent to equipment damage, loss, or malfunction. A copy of the memo is sent to MIS Department to be forwarded to the appropriate personnel for record keeping. All requests are sent through Helpdesk and issued a ticket number and time/date stamp. Priority is then assigned to the ticket request. When the equipment becomes available, Sylvia Ball contacts the officers for pick up. In the event officers need minor attention to cell equipment such as a holster, battery, charger, or antennae they visit Tebony Vincent to check on supply.</p>
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Appendix Object E

	<p><u>Blackberries:</u> Lieutenants and above (with certain exceptions based on assignment) are allowed to have BBs. All requests are sent via Helpdesk to be handled by Sylvia Ball to transfer the cell number over to the new account. Then she coordinates with Anita McCoy and the officer to synch with the desk computer.</p> <p><u>Pager:</u> All pager requests are handled by Logistics (Gary McNabb).</p>
Human Res.	They would issue a request to their Division Manager. If the manager approves, the request would be sent to the Director for approval. It is then sent to Tammy Dickens to be ordered.
CMO	N/A
ODC	Employee would request Cindy Briggs to order.
Fin/Collections	Employee must receive approval from Office Manager then the Finance Department Liaison would send a work order request.
Water Res.	For cell phones and Blackberrys, they must contact our telecom liaison, Rick Adams, who gets approval from the employee's division manager. Our director does not allow the use of Blackberrys in Water Resources. For radios and pagers, the supervisor contacts the radio shop. In general, we aren't adding radios and pagers, only repairing the ones we have.
Field Ops.	The requester would get prior approval from their supervisor and then submit request preferably via email to the departmental representative along with a copy to their supervisor.
Libraries	The request (detailing the need) would be submitted to the employee's direct supervisor and would generally be forwarded to the Senior Library Services Manager, who would review the request and make a recommendation to the director. Final approval would be from the Department Director.
Legal	Employee will make an oral request.
Transportation	A Supervisor will email or call me (Darrell Williamson) with a request for a wireless device. I will ask "why do you feel this piece of technology will enhance the working environment". The requestor will give me a reason why and I will perform an analysis to determine whether or not it is necessary.
Purchasing	Employees request devices from their supervisor. In most cases, the DH or one of the Deputy Finance Directors would review the request. Employees on the CORE Team are required to carry certain devices for emergency contact.
GM 911	Currently, if employee wants a cell phone or other device it must go through chain of command up to the Director.
Fire	An employee would make the request through his/her supervisor, up the chain of command and final approval would come from the Fire Chief.

3. Is there a single contact person within the department to whom all such requests are made?

Appendix Object E

Police	No. See answer for # 2 above.
Human Res.	Yes: Tammy Dickens
CMO	Yes: Susan Covington
ODC	Yes: Cindy Briggs
Fin/Collections	Yes: the Finance Department Liaison
Water Res.	See previous response
Field Ops.	Yes, we have a departmental representative that is responsible for the submittal of requests.
Libraries	All of the request would funnel through the Senior Library Services Manager, prior to reaching the Department Director.
Legal	Yes: City Attorney
Transportation	Darrell Williamson
Purchasing	The DH or one of the Deputy Finance Directors reviews and approves each request.
GM 911	Yes. The contact must check with the Director for final approval.
Fire	There is no single person to handle initial individual requests. Cell phone/BlackBerry and pager acquisitions and maintenance are overseen by two different officers; however, the Fire Chief ultimately approves acquisition.

4. When a request is received within the department, what process and/or review takes place prior to approval? Must a job have certain characteristics for approval of a cell phone or other device? What are the determining factors in choosing cell phone versus BlackBerry versus pager?

Police	<p>(a) When an officer's request is received by liaison Tebony Vincent the individual is contacted to verify the need for replacement equipment.</p> <p>(b) Supervisors have the authority to make requests for officers to receive cell equipment based on Directive 16.7 (see attached). Based on these criteria, not all squads have been issued cell equipment.</p> <p>(c) BBs are only issued to officers with the rank of Lieutenant and above with license approval through Budget and Planning.</p>
Human Res.	A manager would look at how much the person is in the field or working away from the office. Also, the type of work the person is doing. If the person uses a Blackberry they have the ability to read their e-mails as well as make calls. Thus, they will not miss any urgent e-mails or calls.
CMO	A: Manager determines need; B: Yes; C: Contact requirements
ODC	Division Heads and/or Department Head makes determination.
Fin/Collections	Requests are usually received from a Supervisor or Asst. Supervisor along with an account number and description of the work that needs to be done. Have only purchased phones for

Appendix Object E

	employees in the Collections Division.
Water Res	A: Division Manager approval; B: Not consistently across the department; C: Pagers are used for on-call personnel and cell phones otherwise. No Blackberrys for Water Resources.
Field Ops.	The requester receives prior approval from their supervisor and the supervisor determines if the device is considered necessary for daily operation. The requirement for such devices can be determined based on the type of job as well. Blackberrys are usually provided for division managers based on the large number of employees they supervise, their job responsibilities, emergency contact, and for times when out of the office for long periods due to meetings or other work-related priorities.
Libraries	<p>As stated in question 2, the request must be very detailed. The approval of a cell phone is determined by job function, such as technology specialists, who spend a lot of time out in the branches working on technology. Our mobile units also have cell phones due to the fact that they spend the majority of their job on the road. The three division majors have cell phones, only one of which is a blackberry. The justification for the division managers is because of the basic functions and requirements of the job.</p> <p>The pagers are given to the Emergency Contact individuals (Director, 1 division manager, Safety/Facilities Manager, and the person who officially serves on the library core team). We also use pagers for our couriers.</p>
Legal	The position held, the need identified for the device and whether or not sufficient funds available for device. The position held and the amount of time the employee is required to be outside of the office on City's behalf.
Transportation	When a requestor is identified for any wireless device, I will perform a field review of the requestors' job to determine whether this streamlines his work load/process and is this cost efficient for the department.
Purchasing	<p>Employee must demonstrate a business need for the device. Business needs can include the following:</p> <ul style="list-style-type: none"> ◆ 24/7 or emergency contact ◆ Individuals who are mobile or work in the field ◆ Security for individuals transporting money <p>Department Heads, Assistants, Divisional Managers and Asst. Division Managers, with approval are the only employees eligible for BlackBerry's.</p>
GM 911	All requests for devices must go through the chain of command up to the Director. Blackberry's are an option for those employees that oversee critical components of the 911 system that must be able to respond quickly 24/7/365 by email or other means if mobile. These are typically only approved for key technical and management staff. Pagers are issued only for

Appendix Object E

	some mid level supervisors since they can be mobile within the facility or may need to be reached about a multitude of issues. This option is cheaper than a cell phone.
Fire	Requests are reviewed and deemed appropriate by section heads based on the employee's job requirements and duties, prior to final approval from the Fire Chief. Job characteristics do dictate approval for devices. Administrative Officers subject to emergency call back are issued pagers. Administrative Officers who are in the field daily, or who spend the majority of their time out of the office are issued cell phones. Exempt administrative managers are provided with a BlackBerry. *Numerous pagers for Regional Response emergency call back are paid for through State funds

5. Does anyone monitor billing and/or usage to encourage proper use of this technology?

Police	Monitoring of the overall cell and data card bills is handled by Budget and Planning. Individual officers are responsible for their own bills. School Resource Officers (SROs) are billed separately as they are under Guilford County. Safe use is stressed through our IT Department such as not responding to unfamiliar unsolicited text messages. There is a growing need for training classes for the BB due to ever-changing technology.
Human Res.	Tammy Dickens reviews the bills each month. She tries to identify any abnormalities.
CMO	Susan Covington
ODC	Division Heads/Department Head
Fin/Collections	Yes; the Office Manager and Supervisors.
Water Res.	The minutes are tracked for each employee in a spreadsheet and distributed monthly to division managers.
Field Ops.	Yes, we have a departmental representative that reviews all bills, stores the costs in a spreadsheet, and keeps a hard or electronic copy for future reference.
Libraries	Yes
Legal	Yes
Transportation	Darrell Williamson – Sprint Mobile Air Bill Card Antwyan Jones – Cisco IP Phone Dee Mitchell – Sprint Cell Phone
Purchasing	Yes
GM 911	In the past we had one person look over all bills. We then transitioned to employees looking over their bills and paying for any personal calls. We currently only scan/review the bills that are higher than the norm. We plan to revisit this issue.

Appendix Object E

Fire	Yes. A Captain in Support Services and the Deputy Chief of Operations monitor monthly billing and usage.
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6. Is there regular review of the usage of wireless telecommunications devices within the department to insure that the employees continue to have an identified need for the device?

Police	Yes. Employees that no longer qualify to have a cell or pager equipment are required to turn it in to the appropriate parties so the account can be canceled or reassigned. Such review also occurs when officers are transferred, placed on light duty, become higher backs, or reserves.
Human Res.	Tammy Dickens checks with the managers each year as part of the budget process.
CMO	Yes
ODC	Division Heads and Department Head monitor.
Fin/Collections	Yes; the Office Manager and Supervisors.
Water Res.	Not consistently.
Field Ops.	Yes. Devices are given to appropriate personnel per supervisor approval and those individuals are required to adhere to City policies and procedures as it relates to usage.
Libraries	Yes
Legal	Yes
Transportation	The Technology Section performs periodic checks on the performance of the devices and maintains data to ensure the devices are performing up to the standards of the user and department needs.
Purchasing	Informal and infrequent reviews are conducted usually following a business process change or turnover.
GM 911	No, we only have a limited number of devices issued to employees. We have not reviewed the issuance of our devices since the roles of employee within GM911 are fairly static.
Fire	Wireless devices are assigned based on the duties of a position. Any change in the duties of the position or a change of personnel who occupy the position results in reevaluation of the need for wireless communications.

Appendix Object F

Wireless Technology Study Informational Questions for Departments

Attached please find the most up-to-date spreadsheet that indicates departmental totals (by fund) for FY 07-08. Please note that these totals are a snapshot in time by device and may not be representative of your department's current use of technological devices as defined in this study of the following: (a) cell phones and/or Blackberry devices; (b) wireless data cards; (c) radios; and (d) pagers

Please answer the following questions in as much detail as possible and attach additional sheets as necessary.

1. Please list all position types in your department that are assigned one or more of the devices listed above. A position type can be defined as "solid waste operator" or "police sergeant." For each position type, list type of device(s) assigned. Please note the total number of positions within this type that are assigned one or more devices.

Ex. All sixteen Police Sergeants **(please provide the number of police sergeants)** are issued a cell phone, wireless data card and radio.

Ex. Three out of five Lieutenants **(please provide the number of police lieutenants)** are issued a cell phone, wireless data card, radio and pager.

2. Please describe how each of these devices is used in your department's daily operations. Discuss the use of each device separately (i.e. phone and/or Blackberry; radio; etc.) as well as the need for redundancy where any may exist (i.e. pager and cell phone or cell phone and Blackberry).

Please attach any written policies or evaluation procedures that are used to determine a position or position type's eligibility to be assigned one more devices. If no such policies exist, please briefly describe the decision making process for allocating and assigning these devices.

3. How would service delivery, workloads and/or emergency preparedness be affected in your department if you were forced to reduce the number of wireless technology devices? What if the devices were not available at all? Please be as specific as possible, including documenting alternative methods of communication or service delivery that would have to be engaged to replace the wireless technology devices.

4. Identify specific productivity gains and/or cost avoidances that have been realized in your department as a result of the use of these devices?

Ex. By issuing laptops with wireless cards to inspectors, they are able to spend approximately 1.5 hours more time in the field per day, thus reducing the number of positions required by two inspectors.

SUMMARY OF DEPARTMENTAL SURVEYS AND INTERVIEWS

Police

Radios – All 639 sworn positions are issued portable radios; 25 reserve officers and non-sworn field positions are also issued portable radios. Radios are considered the cornerstone for effective emergency communications. Radios are issued to individuals as opposed to sharing radios between positions as a part of the switch to the 800 MHz system nearly 10 years ago. Personnel issued radios are required to monitor radios only while on duty.

Cell Phones/Smart Phones – Three-hundred twelve (312) Police positions are issued cell phones (284) or smart phone/PDAs (38). In general, cell phones are issued to supervisors at any rank as well as to select positions such as detectives and specialized team leaders. These are used to connect field personnel with their “home base” or whenever positions move constantly between facilities. Smart phones allow positions that are required to maintain a field presence to maintain constant connectivity and allow those positions to respond to administrative matters. Smart phones are assigned to any rank Captain and above as well as select Lieutenants and Sergeants.

Wireless Cards – Three-hundred forty two (342) wireless cards are maintained predominantly for the mobile computers in patrol vehicles. There are a few exceptions of positions which also have wireless cards in order to allow them to stay connected via their laptops to their “home base”. It is GPD’s intent that these be issued only to those with needs for emergency connectivity. The general criterion for these exceptions is the amount of administrative duty that a position requires. For instance, if a position is in the field 80% of its time; typically a laptop with a wireless card is issued instead of a desktop computer.

Pagers – Currently, there are 345 pagers in use; however, as this study has unfolded, GPD maintains that it can systematically eliminate about 95% of its pagers because the aforementioned devices allow them to remain fully connected and engaged for daily operations as well as in the event of an emergency. Approximately 20 positions that have position-specific commands would maintain their pagers (Police Chief, Special Operations Division commander, special teams, etc.) The elimination of these pagers would result in approximately \$40,000 in cost savings to the City.

Since the study began the Greensboro Police Department maintains that it is in the process of evaluating its level of connectivity with a goal of eliminating any duplication of service wherever possible. GPD is in the process of developing an overall comprehensive communication policy in the event that any or all of its currently utilized technology devices failed. GPD indicates its most critical

Appendix Object G

wireless communication needs remain in the use of portable radios for emergency personnel as well as ensuring adequate phone connectivity.

Fire

Radios – Forty-three (43) sworn positions are issued portable radios. Radios are the heart of GFD's emergency response system and are constantly monitored.

- Sixteen (16) Chief Officers and three (3) administrative Captains use these daily to monitor potential or active emergency situations and provide real-time prompt assistance to help mitigate the emergency.
- Sixteen (16) Fire Inspectors are assigned individual radios and three Fire Investigators who are assigned shifts share a single (1) radio to communicate with Guilford Metro 911 when testing alarm systems, a primary role of their position as well as investigating the cause of a fire-related incident.
- Three (3) Training Officers use radios for training drills and live fire training.
- Twelve Suppression Battalion Chiefs who are assigned to shifts share four (4) portable radios as well which are assigned to their vehicles. In addition to monitoring emergencies/dispatches, they are also used to manage the daily actions of units under their direct supervision.

Cell Phones/Smart Phones – Cell phones and smart phone/PDAs are similarly assigned in the Fire Department.

- A total of 19 smart phones/PDAs are issued to the Chief Officers and Administrative Captains. These are generally used by exempt staff who are frequently out of the office, but which must maintain access to email, allowing them to manage operations within their sections. They also receive emergency call back for events; receive CAD information; and emergency weather alerts. Those issued to the Captains are involved in the City Command Center, Technology Maintenance, Records Management and Regional Response Teams.
- Twenty-four total (24) cell phones are issued as follows: Fire Inspectors (16); three Fire Investigators assigned to a shift share a single (1) phone; Training Officers (3) are individually issued phones; and 12 Suppression Battalion Chiefs assigned to shifts share phones (4 - one per battalion). Again, the phones are issued to these individuals who spend the majority of their time in the field, but who must maintain communication for the needs of the department. Cell phones allow them to communicate with

Appendix Object G

their supervisors and one another, maintain contact with their direct reports and coordinate emergency events and inspections with other agencies such as Emergency Management, Guilford County Health Department, American Red Cross and Environmental Health.

Wireless Cards – Thirty-two (32) wireless cards are maintained predominantly for the Fire Prevention Bureau and/or for other Fire units because they are located in areas which limit or eliminate essential GM 911 data communications for CAD information, mapping, etc. Fire Inspectors within the Fire prevention Bureau use the wireless cards and laptops as their portable office because their primary duties involve inspecting facilities/businesses and the wireless cards allow them to complete and transmit reports seamlessly without going back to the office while also enhancing customer service.

Pagers – Pagers are used primarily as a tool for the emergency call back of selected personnel. A total of 88 pagers are issued to the GFD; 53 are funded through State Regional Response Grants. Thirty-seven (37) pagers are issued slightly differently than the other devices previously discussed: (19) to Chief Officers and Administrative Captains; (12) to Suppression Battalion Chiefs, as above. Three (3) Fire Investigators who are assigned to shifts have individual pagers as does the Captain who serves as a back-up investigator (4). Lastly, two (2) Captains who serve as Training Officers are also assigned pagers. The additional pagers are issued to Chiefs, Captains, and Firefighters who are members of the Regional Response Team.

Field Operations

Radios – Two-hundred nineteen (219) mobile and 98 portable radios are issued as follows: one (1) for the Department Head; three (3) for Division Managers; seven (7) to Section Supervisors; and 306 to Field Personnel/Vehicles.

Radios are used in all field equipment and vehicles that are operated on a regular basis such as solid waste collection trucks and supervisor vehicles. Handheld devices and/or base radios are provided for emergency contact or for those positions who are regularly in the field and which must stay in constant contact with field personnel.

Cell Phones/Smart Phones – There are five (5) smart phone/PDA devices and 47 cell phones issued as follows:

- The smart phones are issued to four (4) Field Operations Division Managers and one (1) Section Supervisor.
- Cell phones are issued to 10 Section Supervisors and 37 Field Personnel

Appendix Object G

The need for such devices is based on job responsibilities requiring supervision of a large number of employees, for emergency contact and when frequently out of the office.

Wireless Cards – Field Operations issues wireless data cards to 41 individuals including three (3) Division Managers; five (5) Section Supervisors; and 33 Field Personnel. Wireless cards are used primarily to receive and generate work orders and transmit associated reports, but may also be used to revise job assignments and stay connected with other crews and/or supervisors.

Pagers – Fifteen pagers are issued to four (4) Division Managers; six (6) Section Supervisors; and five (5) Field Personnel. These are primarily for those on the City Core Team, for emergency contact, or on-call/after-hour service needs.

Engineering & Inspections

Wireless communication devices in the Engineering & Inspections Department are issued as follows:

- **Radios** – Sixty-six (66) positions are issued radios
- **Cell phones/Smart Phones** – One-hundred fifteen (115) positions are issued cell phones and four (4) are issued smart phones
- **Wireless Cards** – Fifty-three (53) positions are issued wireless cards
- **Pagers** – Thirty-one (31) pagers are issued

- The **Director of Engineering & Inspections** is issued a wireless card, radio and pager. The wireless card allows for 24/7 access for in-field and emergency operations as well as network connectivity while out of the office. The radio is used for emergency operations and connectivity to the Maintenance Groups. The pager is used for emergency operations as required by Guilford County's Emergency Operations Center (EOC).
- The **Building Inspections Division** is issued 52 cell phones, 43 wireless cards, one (1) radio and seven (7) pagers. The cell phones are used in the field for communication with customers/contractors, the office and/or the director. The wireless cards are mobile computer operations for the unit that allows them to complete and transmit reports while in the field. The radio and pagers are used for emergency management as part of the Damage Assessment Team.
- The **Building Maintenance Division** is issued nine (9) cell phones, one (1) wireless card, 28 radios, and 10 pagers. Radios are the primary communication device and are used for distribution of work orders and information to staff, supervisors and the maintenance managers; communication of weather-related emergencies; and communication with a floating staff person as he moves from building to building. Cell phones

Appendix Object G

- allow communication with vendors or contractors from the job site and to inquire about material pricing and availability as well as for on-call staff who may experience emergencies on nights and weekends. The HVAC Mechanical Trades Supervisor is issued a wireless card for night and weekend emergency communication with various building automation control systems that the City operates. The Assistant Building Maintenance Manager is issued a pager as a secondary means of communications in the event of emergency night and weekend calls in the event his cell phone signal is unavailable.
- The **Business & Technology** Division is issued one (1) smart phone to provide constant contact during business hours and also allows for uninterrupted access to email and calendars for coordination with other staff as the Business Center Manager is frequently out of the office.
 - The **Central City Services** Division is issued seven (7) cell phones, three (3) smart phones, two (2) wireless cards, 18 radios and eight (8) pagers. Radios are the primary communication device and are used for distribution of work orders and information to staff, supervisors and the maintenance managers; and communication of weather-related emergencies. The pagers are issued to those employees who are located in the City's largest facilities so they may be reached easily and quickly by staff and for emergency communications. The smart phones are issued to the Manager of Central City Services, the Assistant Manager of Central City Building Maintenance, and the Automated System Control Specialist and allow for night and weekend emergency communication as well as for communication with various building automation control systems that the City operates. The wireless cards are issued to the Automated System Control Specialist and the Custodial Supervisor and allow for night and weekend emergency communication as well as for communication with various building automation control systems that the City operates.
 - The **Engineering** Division is issued 37 cell phones, one (1) smart phone, five (5) wireless cards and four (4) pagers. The cell phones are the primary communication device and are issued to those employees who are frequently or normally out of the office to provide constant communication during regular business hours with the public and co-workers. The smart phone is issued to the Engineering Manager, providing constant communication with the public and staff and allows access to email and calendars throughout the day while the employee is frequently out of the office. The wireless cards are issued to the Civil Engineer, Engineering Manager, Superintendent of Construction Inspections and Supervisors of Construction Inspections (two positions) allowing for work outside the office as well as 24/7 access for in-field and emergency operations. The pagers are used exclusively for emergency operations as required by Guilford County EOC.
 - The **Facilities** Division is issued eight (8) cell phones, one (1) wireless card, one (1) radio and one (1) pager. The cell phones are used by the Project Managers, Manager of Construction Projects and Facilities

Appendix Object G

- Planning Specialists to monitor on-going construction projects; stay in touch with Project Managers and Facilities Planning Specialists, contractors, vendors and client departments. The wireless card, radio and pager are issued to the Manager of Construction Projects. The wireless card is used to access folders and the Intranet when needed on job sites or while attending meetings. The radio and pager are used in conjunction with the City's Core Team/Damage Assessment Team in the event of an emergency.
- The **Security** Division is assigned one (1) cell phone and (16) radios. The Security Manager is assigned a cell phone to have constant communication with City leadership and the Security Officers assigned to the City's Security Contract. Several facilities are patrolled by the Security Officers on a 2/47 basis and the Security Manager is on-call in the event of an incident. Radios are shared by 32 Security Officers who work on shifts in the City's various facilities and are a critical communication device during their duty hours.

Parks & Recreation

Parks & Recreation is issued 39 cell/smart phones, 39 radios and eight (8) pagers among 65 positions.

- **Radios** are generally issued as a means to communicate needed information in daily operations to staff in the field or in case of safety/risk issues in emergency situations.
- **Cell Phones/Smart Phones** are generally issued to those staff who are frequently outside of the office; for emergency availability and/or call-backs; or for daily communications with field staff, other departments, and the public.
- **Pagers** are issued to staff who have no other communication devices, but are called for weekend or emergency call-backs; or for the department's Core Team members.

**Appendix Object H
Cell Phone Stipend Analysis**

Account	Department	Cell Phones		Stipend Costs @							
		Costs	# Devices	\$ 20.00	Annual Est. Savings	\$ 40.00	Annual Est. Savings	\$ 50.00	Annual Est. Savings	\$ 70.00	Annual Est. Savings
101-0201	Executive	\$ 1,374	2	\$ 480	\$ 894	\$ 960	\$ 414	\$ 1,200	174	\$ 1,680	\$ (306)
101-0203	ERP			\$ -	-	\$ -	-	\$ -	-	\$ -	-
101-0207	Internal Audit			\$ -	-	\$ -	-	\$ -	-	\$ -	-
101-0208	MWBE	1,348	2	\$ 480	868	\$ 960	388	\$ 1,200	148	\$ 1,680	(332)
101-03	Human Relations			\$ -	-	\$ -	-	\$ -	-	\$ -	-
101-04	Public Affairs	2,227	5	\$ 1,200	1,027	\$ 2,400	(173)	\$ 3,000	(773)	\$ 4,200	(1,973)
101-05	Human Resources	8,645	10	\$ 2,400	6,245	\$ 4,800	3,845	\$ 6,000	2,645	\$ 8,400	245
101-07	MIS	3,047	3	\$ 720	2,327	\$ 1,440	1,607	\$ 1,800	1,247	\$ 2,520	527
101-10	Finance	5,054	8	\$ 1,920	3,134	\$ 3,840	1,214	\$ 4,800	254	\$ 6,720	(1,666)
101-15	Legal	2,385	4	\$ 960	1,425	\$ 1,920	465	\$ 2,400	(15)	\$ 3,360	(975)
101-20	Planning	5,466	7	\$ 1,680	3,786	\$ 3,360	2,106	\$ 4,200	1,266	\$ 5,880	(414)
101-35	Police	145,016	295	\$ 70,800	74,216	\$ 141,600	3,416	\$ 177,000	(31,984)	\$ 247,800	(102,784)
101-40	Fire	29,287	51	\$ 12,240	17,047	\$ 24,480	4,807	\$ 30,600	(1,313)	\$ 42,840	(13,553)
101-43	Field Ops.	24,511	52	\$ 12,480	12,031	\$ 24,960	(449)	\$ 31,200	(6,689)	\$ 43,680	(19,169)
101-45	Transportation	15,700	35	\$ 8,400	7,300	\$ 16,800	(1,100)	\$ 21,000	(5,300)	\$ 29,400	(13,700)
101-50	P&R	26,703	54	\$ 12,960	13,743	\$ 25,920	783	\$ 32,400	(5,697)	\$ 45,360	(18,657)
101-55	Libraries	4,266	9	\$ 2,160	2,106	\$ 4,320	(54)	\$ 5,400	(1,134)	\$ 7,560	(3,294)
101-60	E&I	80,024	134	\$ 32,160	47,864	\$ 64,320	15,704	\$ 80,400	(376)	\$ 112,560	(32,536)
101-65	Environ. Svcs.	181	1	\$ 240	(59)	\$ 480	(299)	\$ 600	(419)	\$ 840	(659)
TOTAL General Fund		\$ 355,234	672	\$ 161,280	\$ 193,954	\$ 322,560	\$ 32,674	\$ 403,200	\$ (47,966)	\$ 564,480	\$ (209,246)
205	P&R/Cemeteries	\$ 3,757	4	\$ 960	\$ 2,797	\$ 1,920.00	1,837.00	\$ 2,400.00	1,357.00	\$ 3,360.00	397.00
211	Housing & CD	6,460	11	\$ 2,640	3,820	\$ 5,280.00	1,180	\$ 6,600.00	(140)	\$ 9,240.00	(2,780)
212	Housing & CD			\$ -	-	\$ -	-	\$ -	-	\$ -	-
216	JTPA	3,262	7	\$ 1,680	1,582	\$ 3,360.00	(98)	\$ 4,200.00	(938)	\$ 5,880.00	(2,618)
220-40	State & Fed. Grants/Fire	1,624	4	\$ 960	664	\$ 1,920.00	(296)	\$ 2,400.00	(776)	\$ 3,360.00	(1,736)
220-50	State & Fed. Grants/P&R	503	1	\$ 240	263	\$ 480.00	23	\$ 600.00	(97)	\$ 840.00	(337)
281	GM 911	13,182	18	\$ 4,320	8,862	\$ 8,640.00	4,542	\$ 10,800.00	2,382	\$ 15,120.00	(1,938)
281	Fire			\$ -	-	\$ -	-	\$ -	-	\$ -	-
501	Water Resources	52,162	144	\$ 34,560	17,602	\$ 69,120.00	(16,958)	\$ 86,400.00	(34,238)	\$ 120,960.00	(68,798)
505	Water Resources/Stormwater	6,379	17	\$ 4,080	2,299	\$ 8,160.00	(1,781)	\$ 10,200.00	(3,821)	\$ 14,280.00	(7,901)
521	Coliseum	***	***								
543	Transportation/Parking	1,944	4	\$ 960	984	\$ 1,920.00	24	\$ 2,400.00	(456)	\$ 3,360.00	(1,416)
551	Env. Svcs./SWM	2,335	4	\$ 960	1,375	\$ 1,920.00	415	\$ 2,400.00	(65)	\$ 3,360.00	(1,025)
564	Transportation/GTA	5,041	7	\$ 1,680	3,361	\$ 3,360.00	1,681	\$ 4,200.00	841	\$ 5,880.00	(839)
680	Finance/Eq. Svcs.	14,818	14	\$ 3,360	11,458	\$ 6,720.00	8,098	\$ 8,400.00	6,418	\$ 11,760.00	3,058
681	GM 911	4,691	10	\$ 2,400	2,291	\$ 4,800.00	(109)	\$ 6,000.00	(1,309)	\$ 8,400.00	(3,709)
682	MIS	7,947	15	\$ 3,600	4,347	\$ 7,200.00	747	\$ 9,000.00	(1,053)	\$ 12,600.00	(4,653)
683	Finance/Graphic Svcs.	411	2	\$ 480	(69)	\$ 960.00	(549)	\$ 1,200.00	(789)	\$ 1,680.00	(1,269)
684	HR/Ins. Funds			\$ -	-	\$ -	-	\$ -	-	\$ -	-
TOTAL Other Funds		\$ 124,516	262	\$ 62,880	\$ 61,636	\$ 125,760	\$ (1,244)	\$ 157,200	\$ (32,684)	\$ 220,080	\$ (95,564)
TOTAL ALL FUNDS		\$ 479,750	\$ 934	\$ 224,160	\$ 255,590	\$ 448,320	\$ 31,430	\$ 560,400	\$ (80,650)	\$ 784,560	\$ (304,810)
Annual Cost per Device		\$ 514		\$ 240		\$ 480		\$ 600		\$ 840	

NOTES: Number of devices by Fund based on rough count of dept. billing. Information was not provided by fund.